REMARKS

Initially, the Examiner's attention is respectfully directed to the Information Disclosure Statement filed October 11, 2002. Consideration of this Information Disclosure Statement is respectfully requested.

In section 1 on page 2 of the Office Action, the Examiner objected to the Amendment filed April 25, 2002, for adding material which was not supported by the original specification. Specifically, the Examiner asserted that the original disclosure provided no support for softening of the circuit board.

In section 3 on pages 2-3 of the Office Action, the Examiner rejected claims 86-88 under 35 U.S.C. 112, first paragraph, for containing new matter; this new matter being the recitation that the circuit board softens.

In response to the objection to the specification and the rejection of claims 86-88, provided herewith is a Declaration Under Rule §1.132, which establishes that one having ordinary skill in the art would recognize that a circuit board of the composition as described on page 29, lines 7-10 of the original specification, when subjected to a temperature and duration of heating as described on page 30, lines 3-7 of the original specification, will soften. Accordingly, in view of the Declaration provided herewith, it is respectfully requested that the Examiner withdraw the objection to the specification and no longer reject claims 86-88 for containing new matter.

In section 3 on pages 2-3 of the Office Action, the Examiner also rejected claims 77, 80 and 83 under 35 U.S.C. 112, first paragraph, for containing new matter. In response to this rejection, the Examiner's attention is respectfully directed to page 29, lines 22-25 of the original specification. This portion of the original specification expresses that warpage of the IC chip, i.e. the electronic component, can be corrected as recited in claims 77, 80 and 83.

Accordingly, it is respectfully requested that the Examiner withdraw the 35 U.S.C. 112, first paragraph, rejection of claims 77, 80 and 83.

In sections 5-26 on pages 3-14 of the Office Action, the Examiner rejected claim 39-88 over a plurality of references for a variety of reasons. These rejections are respectfully traversed for the following reasons.

With regard to the rejection of claims 39-42, 45, 48, 54, 58-71 and 80 under 35 U.S.C. 102(e) as being anticipated by Murakami, the Examiner has taken the position that the resin of Murakami is a solid since it is without internal cavity. While Applicant fully appreciates that an Examiner is encouraged to give the broadest reasonable definition to a claimed term, it is respectfully submitted that the definition of solid accorded by the Examiner, i.e. something without internal cavity, is not a reasonable definition or at the very least not a complete definition.

In this regard, if anything without an internal cavity is a solid, then water in a non-frozen state would be a solid. This is not reasonable. Additionally, it is clear from the original specification and the remarks submitted April 25, 2002 that Applicant is not intending to define the term "solid" as something that is without an internal cavity, and at the same time in a liquid or non-solid state. Thus, the broadest reasonable definition that should be accorded to the term "solid" in light of the original specification and the remarks filed April 25, 2002, is such that the "solid thermosetting resin", is **not** in a liquid state.

The significance of having the thermosetting resin be "solid", as opposed to in a liquid state, is that this ensures that warpage of the circuit board is adequately corrected. And, as expressed in the Response filed April 25, 2002, in Murakami, the sealing resin 109 is a liquid, and is not a solid. Accordingly, because Murakami does not disclose or suggest the sealing resin 109 to be a solid, since this resin is in a liquid state, claims 39-42, 45, 48, 54, 58-76, 77 and 80 are not anticipated by Murakami.

Additionally, with regard to claims 77 and 80, the Examiner has taken the position that the pressing performed by Murakami will inherently perform the claimed function of correcting any warpage of the electronic component. This position taken by the Examiner is respectfully traversed because the Examiner has failed to provide a basis in fact and/or technical reasoning to reasonably support the determination that the correcting of any warpage of the electronic component **necessarily** flows from the teachings of Murakami. Please see MPEP Section §2112. Accordingly, because the Examiner has failed to demonstrate that the operations performed by Murakami will necessarily result in correcting any warpage of an electronic component thereof, each of claims 77 and 80 is patentable in its own right over Murakami.

The rejection of claims 39-42, 45, 48, 54, 58-77 and 80 under 35 U.S.C. 102(b) as being anticipated by DE '282 is also respectfully traversed since, for the reasons expressed above, the definition of "solid" as presented by the Examiner is not reasonable, or at least not complete. Additionally, with regard to claim 39, DE '282 does not disclose neither the "aligning" step nor the "hardening"step as recited in this claim. Specifically, DE '282 does not disclose any bumps on electrodes with a solid thermosetting resin between these bumps and a circuit board. As such, DE '282 does not disclose the aligning step as recited in claim 39 or the hardening step as recited in claim 39. Accordingly, claim 39 is not anticipated by DE '282.

For analogous reasons, the "positional alignment device", "heating device" and "pressing device" of claim 58 are also not disclosed or suggested by DE '282. Accordingly, claim 58 is also not anticipated by DE '282. If the Examiner continues to rely on this reference to reject the claims, then the Examiner is respectfully requested to specifically point out where each of the limitations recited in claims 39 and 58 is taught or suggested by DE '282.

With regard to the inherency rejection of claims 77 and 80 based on DE '282, the Examiner has failed to provide any basis and/or technical reasoning to reasonably explain that the operations performed by DE '282 will necessarily result in correcting of any warpage of an electronic component of DE '282. Accordingly, for reasons analogous to those expressed above with regard to the inherency rejection of claims 77 and 80 based on Murakami, claims 77 and 80 are patentable in their right over DE '282.

With regard to claim 52, Grupen-Shemansky et al., Tsukagoshi et al. '542 and Matsubara et al., do not resolve the above-noted deficiencies of Murakami and DE '282, and accordingly, claim 52 is allowable over any combination of these three references and either of Murakami and DE '282.

With regard to the Examiner's reliance on Tsukagoshi et al. '542, it is appreciated that this reference discloses a double layer film that includes a connecting composition 18 and insulating adhesive 16. However, nowhere does Tsukagoshi et al. expressly disclose that this double layer film is a "solid", and appears to suggest that a liquid state is preferable (please see column 13, lines 16-19).

Additionally, the resin of Murakami hardens upon being heated, whereas in Tsukagoshi et al. '542 the fluidity of the insulating adhesive 16 at the time of a connection is an important feature of Tsukagoshi et al. (please see column 12, lines 46-51). Accordingly, because of this difference between the insulating adhesive 16 of Tsukagoshi et al. '542 and sealing resin 109 of Murakami, one having ordinary skill in the art would not have been motivated to substitute the double layer film of Tsukagoshi et al. for the sealing resin 109 of Murakami.

Furthermore, assuming arguendo that such a substitution would have been obvious to one having ordinary skill in the art, there is no reason to believe that correcting of any warpage of the circuit board of Murakami would be achieved once this substitution is made and the operations of Murakami are performed. Accordingly, claims 39 and 58 are allowable over a combination of Murakami and Tsukagoshi et al. '542. Similarly, claim 52 is allowable over a combination of Murakami et al., Tsukagoshi et al. '542, Grupen-Shemansky et al. and Matsubara et al.

For analogous reasons, claims 39 and 58 are allowable over a combination of DE '282 and Tsukagoshi et al. '542, and claim 52 is allowable over a combination of DE '282, Tsukagoshi et al. '542, Grupen-Shemansky et al. and Matsubara et al.

The remaining references relied upon by the Examiner do not resolve the above deficiencies of Murakami, DE '282 and Tsukagoshi et al. '542, and accordingly, claims 39-88 are allowable over any of the references relied upon by the Examiner, either taken alone or in combination.

With regard to claims 78, 81 and 84 the Examiner has taken the position that the limitation added by these claims would have been obvious since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. The rejection of claims 78, 81 and 84 based on this reasoning is respectfully traversed.

In this regard, the general conditions of claims 39, 52 and 58, i.e. the independent claims from which claims 78, 81 and 84 depend, respectively, include hardening of a **solid** thermosetting resin. The heating conditions recited in claims 78, 81 and 84 allow for the solid thermosetting resin to be hardened. Because neither Murakami, DE '282, nor any of the other references relied upon by the Examiner, teach or suggest the use of a solid thermosetting resin within an arrangement as

represented by claims 39, 52 and 58, these references do not disclose the "general conditions" of claims 39, 52 and 58.

Accordingly, because the general conditions of claims 39, 52 and 58 are not disclosed by any of the cited references, the Examiner's basis for determining the heating conditions as recited in claims 78, 81 and 84 to have been obvious, cannot reasonably be supported. Thus, claims 78, 81 and 84 are each patentable in its own right.

Finally, because the softening of the circuit board as recited in claims 86-88, which softening allows for a better correction of any warpage of the circuit board, is not taught or suggested by any of the references of record, claims 86-88 are each patentable in its own right.

In view of the above amendments and remarks, it is respectfully submitted that the present that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicant's undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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